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Application Data Sheet

No.6

System Gas Chromatograph

Extended Natural Gas Analyzer
Nexis GC-2030ENGA2
GC-2014ENGA2

This method is for determining the chemical composition of natural gases and similar gaseous mixtures within the composition range shown in the specification sheet. It provides data for calculating a sample's physical properties, such as its heating value and relative density, or for monitoring the concentrations of one or more of the components in a mixture. This GC utilizes a total of four valves and seven columns. The sample is introduced into four sample loops for determination. Using MS-5A, O2, N2, CH4, and CO are separated simultaneously, CO2, C2, and H2S are separated using an Rtx-Q plot column and detected by the TCD. H2 will be separated by MS-5A and, with the other compounds vented out, detected by another TCD using N2 as carrier gas. In the channel of FID on the sub GC, C3-C18 will be separated with an Rtx-1 capillary column and detected by FID. The final analysis time is approximately 30 minutes. The system includes LabSolutions GC workstation software and BTU and Specific Gravity calculation software. The system has two ovens; one oven is used for the Rtx-Q plot column and MS-5A and the other is used for the Rtx-1 column.

Analyzer Information

System Configuration:
Four valves / seven capillary and packed columns with two TCD / one FID detectors

Sample Information:
H_2, O_2, N_2, CO, CO_2, H_2S, C_1~C_{18}

Methods met:
ASTM-D1945, D3588, GPA-2261

Concentration Range:

No.	Name of Compound	Concentration Range	
		Low Conc.	High Conc.
1	He	0.010%	10.0%
2	H2	0.010%	10.0%
3	O2	0.010%	20.0%
4	N2	0.010%	50.0%
5	CH4	20.000%	100.0%
6	CO	0.010%	5.0%
7	CO2	0.010%	20.0%
8	C2H6	0.010%	10.0%
9	H2S	0.100%	30.0%
10	C3H8	0.001%	10.0%
11	i-C4H10	0.001%	10.0%
12	n-C4H10	0.001%	10.0%
13	i-C5H12	0.001%	2.0%
14	n-C5H12	0.001%	2.0%
15	C6 through C18	0.001%	1.0%

Detection limits may vary depending on the sample.
Please contact us for more consultation.

System Features

- Dual TCD and extended FID channels
- By using a second GC oven, the hydrocarbon analysis can be extended up to C18
- Liquid sample can be directly injected to split/splitless injector and analyzed by FID
- Versatile software easy GC system operation

Typical Chromatograms

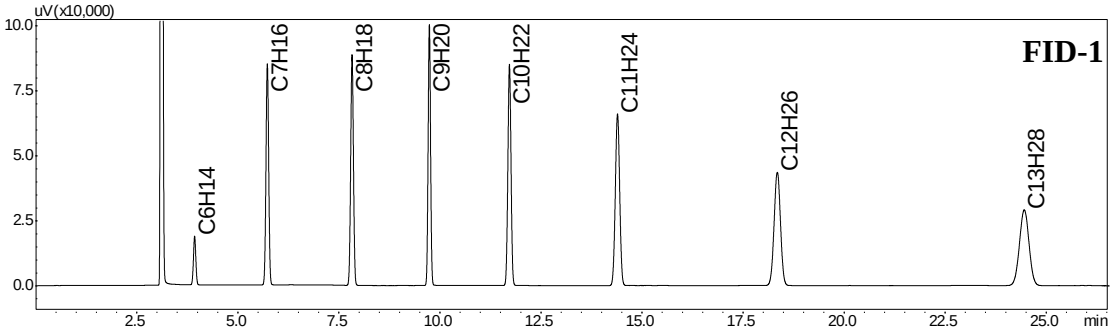

Fig. 1 Chromatogram of FID-1

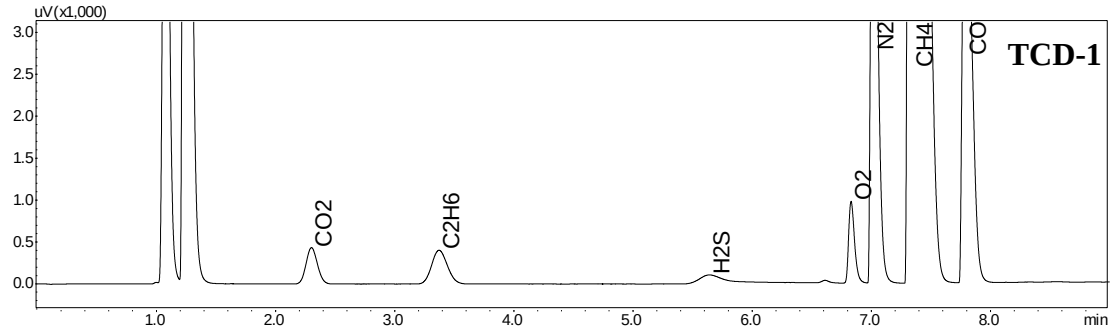

Fig. 2 Chromatogram of TCD-1

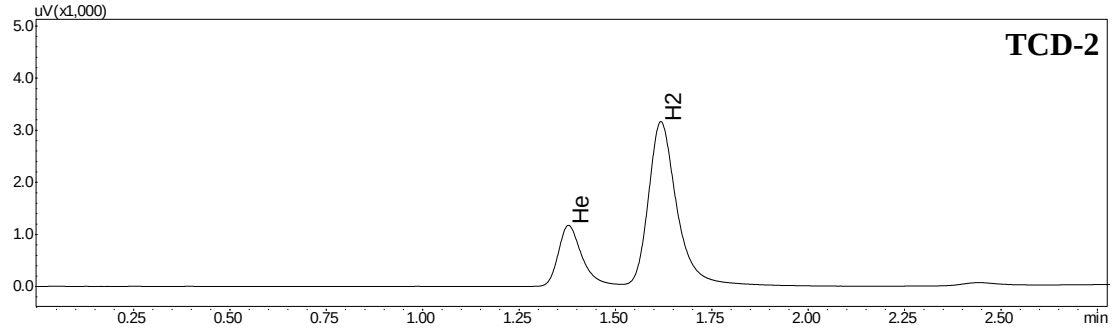

Fig. 3 Chromatogram of TCD-2

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